

App. No. 09/830,232
Office Action Dated June 9, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Claims 1-8 are amended.

Listing of Claims:

1. (Currently Amended) A device ~~Device~~ for the reception of a multicarrier signal, formed by a set of carrier frequencies, said device implementing at least two reception paths (10₁ and 10₂) supplied with data flows, each conveying ~~the~~ a same source symbol ($x_k(n)$), each of said reception paths comprising estimation means (105₁, 105₂), associating, with each source symbol received, an estimated path value and a corresponding ~~piece of~~ path confidence information element, and a said source ~~symbol~~ symbols being conveyed by a subset of said set of carrier frequencies, characterized in that ~~it comprises~~ said device comprise means for the combination (11) of said estimated path values delivering

- an adapted estimated value, obtained from said estimated path values, in taking account of said path confidence information to weight said estimated path values; and
- an adapted confidence information element, as a sum ~~function~~ of said path confidence information elements, and

weighted-input decoding means (12) supplied by said adapted estimated ~~values~~ value.

2. (Currently Amended) Reception device according to claim 1, characterized in that said estimation means (105₁, 105₂) comprise means for the estimation of ~~the~~ a transmission channel, delivering said path confidence information elements.

3. (Currently Amended) Reception device according to claim 1, characterized in that said adapted estimated value is computed as follows:

App. No. 09/830,232
Office Action Dated June 9, 2004

$$\hat{x}_{Adap,n} = \left(\sum_{i=1}^N cnfd_{i,n} \times \hat{x}_{i,n} \right) / \left(\sum_{i=1}^N cnfd_{i,n} \right)$$

where:

$\hat{x}_{i,n}$ is the estimated value of the symbol received on the path i ;

$cnfd_{i,n}$ is the corresponding path confidence information element; and

N is the number of paths.

4. (Currently Amended) Reception device according to claim 1, characterized in that, said ~~adaptive~~ adapted confidence information element is computed as follows:

$$cnfd_{Adap,n} = \sum_{i=1}^N cnfd_{i,n}$$

where:

$cnfd_{i,n}$ is the confidence information element associated with the path i ; and

N is the number of paths.

5. (Currently Amended) Reception device according to claim 1, characterized in that the reception device implements at least two antennas (101₁, 101₂), supplying distinct reception paths.

6. (Currently Amended) Reception device according to claim 1, characterized in that each of said reception paths comprises a first module shaping and demodulating the received signal and a second module determining said estimated path values and said corresponding confidence information elements, said device furthermore comprising a single module supplied by said second ~~modules-module~~ of each reception path, and providing especially for said means for the combination (11) delivering said adapted estimated values and a said weighted-input decoding means (12) supplied with by said adapted estimated ~~values-value~~.

7. (Currently Amended) A method ~~Method~~ for the reception of a multicarrier signal, formed by a set of carrier frequencies transmitted simultaneously, implementing at least two

App. No. 09/830,232
Office Action Dated June 9, 2004

reception paths supplied with data flows, each conveying the same source symbols, each of said reception paths implementing a step of estimation of the transmission channel associating, with each source symbol received, an estimated path value and a corresponding path confidence information element,

a source symbol being conveyed by a subset of said set of carrier frequencies,
characterized in that it comprises:

- a combination step delivering:
 - an adapted estimated value, obtained from said estimated path values in taking account of said path confidence information to weight said estimated path values ; and
 - an adapted confidence information element with each of said adapted estimated values, as a sum function of said path confidence information elements,
- a step of weighted-input decoding, supplied by said adapted estimated values.

8. (Currently Amended) ~~Use of a Reception device and/or of the method according to claim 1, whereas method provides and/or of the method for the reception of a multicarrier signal, formed by a set of carrier frequencies transmitted simultaneously, implementing at least two reception paths supplied with data flows, each conveying the same source symbols, each of said paths implementing a step of estimation of the transmission channel associating, with each source symbol received, an estimated path value and a corresponding path confidence information element,~~
~~a source symbol being conveyed by a subset of said set of carrier frequencies,~~
~~characterized in that it comprises:~~

- ~~- a combination step delivering:~~
 - ~~- an adapted estimated value, obtained from said estimated path values in taking account of said path confidence information to weight said estimated path values ; and~~
 - ~~- an adapted confidence information element with each of said adapted estimated values, as a function of said path confidence information elements,~~
- a step of weighted-input decoding, supplied by said adapted estimated values, for the reception of data belonging to at least one of the following applications:
- the broadcasting of digital television signals;
- the broadcasting of audio-digital signals;

App. No. 09/830,232
Office Action Dated June 9, 2004

- radio telephony;
- the transmission of data signals.